

## BMW AG: Production-Oriented Power Supply for Motorcycle Production Hall in Berlin



The requirement – area-wide power supply and high flexibility. The automobile and motorcycle manufacturer BMW has responded to the positive sales development of recent years with a modernisation offensive in the Berlin motor cycle plant. BMW has invested a total of almost 12 million EUR in the expansion and modernisation of the Spandau Factory, particularly in a 16,000 sqm extension for the motorcycle assembly with a new state-of-the-art paint shop and extension of the engine production for motorcycles. The first motorcycle to be produced in the new production building rolled off the assembly line in autumn 2002. In addition to the increase in capacity, increased flexibility in motorcycle production was a prime objective. In future it should be possible to respond faster to customer requirements and to developments in the market.

For this reason, the power supply of the two-floor production hall has also been implemented with increased flexibility so that a reliable area-wide power supply can be ensured and adapted easily to any production changes at any time.

**The solution – fail-safe power supply on all floors**

Three features were the decisive factors in the choice of the Moeller solution: The high level of technological and solution expertise onsite, the flexibility of the solution with regard to changes in production requirements, and finally, the fully developed and reliable technology.

The power supply concept provides the hall with its own medium-voltage station, featuring a double feeder and longitudinal coupling to further enhance the power supply reliability and the meeting of demanding requirements.

The tap-offs to the load-centre substations are divided, three per block or 2+1 reserve. A total of five load-centre substations are supplied at different locations and on three floors in the building. The stations consist of a low-voltage main power distribution system with a transformer that is flanged directly in the enclosure, or from a separately standing transformer connected via a busbar.

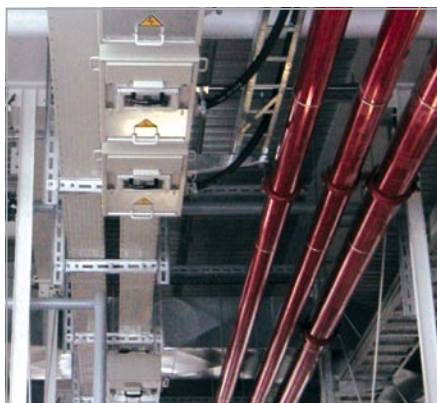
The stations are “meshed” with each other, thus allowing power to be supplied to the necessary locations when required. The main connection between the stations on the ground floor and upper floor consists of two heavy current busbars that serve as a coupling, and as a backbone for supplying the busbars in the production area. These two busbars are provided with remotely controllable break switches for diverting the current flow between the ground floor and upper floor when required.

**The details – current flow and communication intelligently integrated**

Moeller’s scope of delivery and performance included the medium-voltage station – designed as a 10 section EA10 installation, the load-centre substations (without transformer) with a total of 27 MODAN® sections, 470 metres of LD busbar trunking systems for



Load-centre substation with MODAN® and directly connected transformer in the enclosure



LD busbar trunking system as backbone system



BD2 as trunking system

meshing / supplying the power, and 420 metres of BD2-400 as a trunking system, including installation.

Important operating data such as current, voltage, power factor, power, work and all other signals are logged cohesively using an electronic system. The information is collected using a PS4-341 via PROFIBUS DP, processed and then transferred via a LON interface (LON-LE) to a higher-level system for further processing.

**The result – reliable power supply and greater flexibility in production**

The quality of the load-centre substations was already known due to several previous projects implemented at BMW – it was

therefore ensured that the installation would be implemented exactly to the customer’s requirements.

Moeller’s busbar trunking systems have already been successfully used at BMW in Berlin for many years and are valued particularly because of their high level of quality and flexibility

Quicklink ID:

Moeller GmbH  
 Hein-Moeller-Str. 7-11  
 53115 Bonn  
 Fax: +49 (0)228 602-2275  
 E-Mail: info@moeller.net  
 Internet: www.moeller.net

